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ABSTRACT

This study attempted to develop a valid instrument for the assessment of attitudes in kindergarten children and to evaluate two potential curriculum procedures for facilitating attitude growth. One experimental treatment evolved from role-theory and emphasized perceptual awareness and the ability to put oneself in the place of another; the other emphasized training in Piagetian operations such as conservation and spatial perspective. A third control treatment of traditional kindergarten activities was assessed. The major dependent variable was an attitude preference test requiring the children to choose among pictures of black and white people and to apply a positive or negative adjective to the pictures. Subjects were also administered six Piagetian developmental tasks. Results indicate that kindergarten children possess marked, measurable, racial preferences and the significantly reduced racial attitude scores resulting from both role-playing and Piagetian training suggest the feasibility of educational intervention. Descriptions of the procedures and materials used in the Piaget Training Tasks and the Role-Playing Tasks, directions for the Attitude Story Test and for the administration of Four Perspective Tasks are contained in the appendices. (Author/CK)

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DEVELOPMENT OF ATTITUDES TOWARD OTHERS IN YOUNG CHILDREN

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HEALTH, EDUCATION AND WELFARE
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Lawrence, Kansas

January 31, 1971

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Robert L. Hohn
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SUMMARY

This study was an attempt to develop a valid instrument for the assessment of attitudes in kindergarten children, as well as to evaluate two potential curriculum procedures in facilitating attitude growth. One experimental treatment evolved from role-theory and emphasized perceptual awareness and the ability to put oneself in the place of another. The other treatment emphasized the training of Piagetian operations such as conservation and spatial perspective. A third control treatment of traditional kindergarten activities was assessed.

Sixty-three kindergarten children randomly assigned to the three treatments served as Ss. The major dependent variable was an attitude preference test requiring Ss to choose among pictures of black and white people and to apply a positive or negative adjective to the pictures. High reliability for the instrument was obtained, while behavioral episodes were used to ascertain validity. Subjects were also administered six Piagetian tasks assessing conservation of number, of distance, two-dimensional space, composition of classes, straight line perspective, and coordination of perspective. Tests were administered before and after the six-week training period. Training sessions were conducted twice weekly for half-hour periods.

Results revealed that Ss possessed high positive preferences for whites, even black Ss. Both the role-playing and Piaget training conditions significantly decreased pro-white biases, although there was no difference between them. In addition, both treatments resulted in a significant number of Ss acquiring conservation of number, distance and two-dimensional space.

The results indicated the need for an attitude program oriented toward training perceptual and cognitive skills, rather than empathic, affective responses. Subjects did not succeed on tasks requiring them to infer emotional attributes of others, nor did they acquire more complex perspective abilities.

CHAPTER ONE

Introduction

The importance of the early learning experiences of young children has received increased attention in recent years. Many theorists have taken the position that the first five years of life are most important for the intellectual and social development of the child, and that the kinds of experiences which young children have will either retard or facilitate their development. As researchers become more knowledgable about the development of children's attitudes and concepts, they become more convinced of the necessity for educational intervention and facilitation in the pre-school and early elementary school years.

One area of learning that has been identified as being extremely important in the pre-school years is that of attitude formation. Many of the attitudes held by young children reflect societal influences, and the role parents play in their children's formation of attitudes toward others is just beginning to be understood. Children at the age of five are apparently well on their way to the development of ethnic attitudes, prejudices and stereotyped thinking.

Certainly, one of the major concerns of our society today is the effect of prejudicial attitudes and stereotyped thinking on social relationships. Educators have been challenged to ameliorate these problems. It is the purpose of this study to provide a basis for appropriate educational intervention in the development of young children's attitudes. This goal will be accomplished by meeting two basic objectives:

(1) the development of a measurement technique for the assessment of young children's attitudes towards others, and

(2) the construction of curriculum approaches which will facilitate the accurate formation of attitudes toward other people.

DEVELOPMENT OF ATTITUDES

Attitudes toward others are first formed when a child becomes aware of persons other than himself. Although a child may develop attitudes as a result of first-hand personal experiences, research seems to indicate that parents are a major factor in the development of a child's opinions about others. They often serve as models and as "interpreters" for the child's earliest views. Landreth and Johnson (1953) have shown that the development of ideas

about skin color and its significance is highly related to the occupation, intelligence, education and residential neighborhood of their parents. A classic study by Horowitz (1936) revealed that young kindergarten boys of five years of age demonstrated a preference for other white children on a picture selection test. Some children in the study verbally expressed a dislike for or intolerance of Negro boys. The author believed that these children's attitudes toward Negroes were determined not by contact with Negroes, but by contact with prevalent attitudes toward Negroes existing within their immediate environment.

Attributing the learning of racial preferences by children to the effects of parents alone is, of course, over-simplified. Recent research has indicated that the role of the broader, middle-class culture must also be considered. The connotative meaning of terms such as "black" and "white" or "darkness" and "light" are culturally defined so that words associated with black and dark connote negative aspects of an object or situation, while associates of white and light are perceived as positive in value. In a series of studies by Williams (Renninger and Williams, 1966; Williams, 1966; Williams and Roberson, 1967), this color-meaning factor was found to serve as a contributing or reinforcing factor in the development of racial preferences. Further evidence for the effect of this factor can be found in studies by Goodman (1951) and Clark and Clark (1955). Goodman concluded that lower-class children as young as four showed awareness of racial characteristics and racial group affiliation, and that most children preferred the white skin color, even Negro children. Clark and Clark noted that Negro children as young as three were aware of racial differences. They also found that Negro children considered white as the preferred skin color. Apparently, a child's evaluation of skin color or shade and related associations may begin quite early in life.

Educational researchers have also observed that the school environment can effect the formation of children's attitudes and have provided some preliminary results indicating that classroom experiences can facilitate attitude growth. Trager and Yarrow (1952), in a study of 250 kindergarten and primary children, found that: (1) children entering kindergarten have prejudicial attitudes about people of different ethnic and/or racial backgrounds; (2) such attitudes are difficult to overcome, but (3) existing prejudices can be overcome if children are provided first-hand experiences with rejected groups. This study supported the hypothesis that selected experiences can alter children's attitudes in a positive direction.

A similar study was conducted by Miel and Kiester (1967) in a northeast suburban area. The study indicated that young children may possess prejudicial attitudes toward minority groups with which they have had no immediate contact. The children selected demonstrated that they had learned to verbalize positive attitudes toward minority groups, but revealed negative views when assessed on picture

tasks. Negative attitudes were further exhibited when actual contact was made with Negro children bussed to the suburban schools. However, hostile and negative attitudes were changed in some children when classroom experiences were directed toward that goal.

Radke, Trager and Davis (1949) concluded that attitudes toward racial groups are learned early in childhood in the process of "differentiating the social environment". When allowed to discuss the topic, children showed considerable interest in and concern for cultural differences. These authors also concluded that "if the personal-social needs of children in our culture are to be met, their awarenesses, interests and fears related to group factors must be dealt with. This cannot be postponed until adolescence, but must be begun in early school years." Such preliminary research indicates that curricular provisions for attitude development may well be feasible as well as desirable.

CRITIQUE OF ATTITUDE MEASUREMENT

Past attempts at assessing the ethnic attitudes of kindergarten children have often involved the use of pictorial materials in which a child is asked to indicate a preferred "playmate" (Horowitz, 1936) or is expected to explain a particular social phenomenon (Trager and Yarrow; 1952). Other evaluation techniques have emphasized play materials such as dolls (Radke and Trager, 1950) or cardboard cut-outs (Trager and Yarrow, 1952).

On these tasks, the child is expected to manipulate the materials in such a way that his prevalent ethnic attitudes are revealed. Still other attempts have utilized a structured interview approach in which the child responds to questions concerning a social situation involving other ethnic groups (Kutner, 1958). The scoring procedures for these tasks usually involve a highly subjective analysis of the child's responses, given the limited nature of the tests and the relatively immature level of verbal skills available to the child. As a result, it is not often clear whether the child is reflecting a developing "attitude" of his own or is merely regurgitating parental admonitions without the accompanying emotional valence that often characterizes the attitudes of adults toward other groups.

Because most of these tasks were devised exclusively for independent studies, no attempts have been made to relate them in any statistical manner. For example, it is not known whether or not a child scoring in one direction on a picture selection task will perform in a similar manner on a test utilizing a structured interview format.

A recent approach in attitude measurement has been the semantic differential technique developed by Osgood, Suci and Tannenbaum (1957). This instrument is composed of bipolar adjectives (good-bad, pretty-ugly, etc.) which attempt to define the "semantic space" or meaning of a particular concept to the respondent. The technique has been employed primarily in studies of adults of divergent backgrounds and cultures. However, Osgood et al. have reported some success in measuring the "meaning systems" of children with this instrument, and it appears probable that it could be adapted for use with young children (Kerlinger, 1964).

PIAGET - PERSPECTIVE

The development of the child's conception of his world has long been the research interest of Jean Piaget and his followers. Piaget describes the young child as "egocentric", - as operating only from his own point of view. The pre-school child tends to change appearances which are in fact purely relative to his own perception and position into false absolutes. When a pre-school child is shown a model of three mountains and is asked to select pictures showing their appearance from various locations, he consistently selects pictures illustrating only his own view (Piaget and Inhelder; 1956). This observation has been verified by more rigorous experimental techniques on large samples of children (Dodwell, 1963; and Podell, 1966).

It is not until the child begins to distinguish between other perspectives and his own that he becomes conscious of his own viewpoint as a particular one. He is in the process of developing the concept of projective space as described by Piaget and Inhelder. Projective space begins psychologically when an object is no longer thought of in isolation but is considered in relation to a point of view. Children generally acquire this concept in the early elementary school years (Lovell, 1961).

Acquisition of the concept of spatial perspective is apparently facilitated by perceptual activity of a visual and tactile nature. The child must pass beyond the stage of imagery as a basis of representational thought and must construct and transform spatial figures in order to develop a coherent system of spatial relationships. Actions that are actually performed on the objects or figures bring this development about (Lovell, 1961).

From his earliest writings, Piaget has stressed the importance of interaction with peers as the principal process by which the child is liberated from his egocentrism. One can learn the meaning of perspective - and thereby acquire the objectivity and rationality of logical thought, only by comparing one's thought with those thoughts of others and noting similarities and differences between them. Cognitive change can be made possible by the active interaction of

the child and his surrounding physical and social environment (Sigel and Hooper, 1968). The extension of this view to education would suggest the usefulness of group activities in the classroom - projects to be undertaken in common, discussion sessions and the like. "To be active means...doing things in social collaboration, in a group effort. This leads to a critical frame of mind, where children must communicate with one another. This is an essential factor in intellectual development." (Piaget, 1964).

Piaget's view of the development of perspective appears to have much in common with the underlying theory governing most research on the attitude formation of children.

1) Both types of learning occur at approximately the same period of a child's life; - the years three through eight.

2) The effect of a child's interaction with others is certainly important in forming attitudes; moreover, a sense of perspective requires appreciation of the viewpoints of others obtained through social interaction.

3) Both processes require a gradual change in perception, in which the viewpoints and behaviors of other individuals are seen as progressively more and more distinct from one's own.

4) The basis for this change in perception seems to be found in the activity of the child, whether in the form of manipulating objects or in actively comparing one's thoughts and behavior with those of others.

5) The role of adults in both processes is an important one; - both parents and teachers act as influences in providing appropriate educational opportunities.

To summarize then, Piaget conceives of the young child as egocentric, generally incognizant of the point of view of others and relatively unaware of how his viewpoint may differ from theirs. The child is insensitive to the fact that the way he construes his data is only one construction among many possible ones, and it follows that he can scarcely check for cognitive bias in his own view of events. It is hypothesized here that this cognitive egocentrism, marked by unconscious preferential focusing on selective characteristics and by a lack of differentiation of viewpoints, is a possible characterization of a young child in the process of developing a prejudicial attitude. To the extent that the child can free himself of his egocentrism through interaction with his environment, his perception of and relationship with others representing different viewpoints and characteristics can

be a healthy, non-prejudicial one. The child that is bound by relatively rigid percepts and who does not develop the skills of logical thinking at the appropriate time in his early years may develop enduring prejudicial judgments. It would seem to be a logical extension of this position than that classroom experiences aimed at expanding the young child's sense of perspective and improving his ability to think in a logical rather than an intuitive manner should facilitate the development of attitudes based on facts and empirical data rather than emotional prejudgments.

More specifically, the appropriate educational experiences should involve training in spatial conceptualization, such as the conservation of distance and of two and three-dimensional space. Although such training is not normally a part of most elementary school curricula in any formal way, recent studies have indicated the interest of educational researchers in including such activities in the schools. The work of Carlson (1970) Miller, Boismier and Hooks (1969) and Miller and Miller (1970) have demonstrated the efficacy of various training procedures on the development of spatial concepts in early elementary school children.

A related, but alternative approach to the provision of curricular experiences which would facilitate attitude development, evolves from the role-playing and psychodrama techniques first described by Moreno (1945). In this approach, children of differing ethnic or economic backgrounds are placed together in small groups in play situations and are given parts to play. By playing the part of a child from an "out-group", the child actor may learn something of the discomfort engendered by prejudicial behavior. A related technique has been reported by Axline (1948) in which children placed together in a play situation with dolls and miniature house furnishings displayed a decrease in the number of racial conflicts between them. It was felt that these children gained a respect for and an acceptance of others as a result of these forced interactions. The difficulty of incorporating these procedures into a curriculum for young children may explain why more studies of this kind have not been done.

However, a recent investigation of the development of role-playing and communication skills from childhood to adolescence by Flavell, Botkin, Fry, Wright and Jarvis (1968) has rekindled interest in this approach. These authors suggest that role-taking in early childhood consists of at least two sequential skills: first the ability to perceive and discriminate the characteristics of different perspectives; second the ability to adopt a different perspective as one's own. The first skill is paramount in the early years; the latter seems to depend upon the occurence of the former. The child who is unable to adopt a different perspective from his own view, who cannot appreciate the characteristics that differentiate individuals, sees others in a stereotyped way. Normally, the child slowly acquires these skills during childhood

with corresponding developmental changes in role-taking and communication behavior. The failure to do so adequately, however, may be importantly related to the onset of prejudicial thought.

The similarity of this position to Piaget's is great, yet there are important differences in their implications. While both views would emphasize that the teaching of cognitive operations such as conservation will facilitate the perceptual ability involved in discriminating differences between people and events, the role-taking view would place added emphasis upon the empathic skill of the child. Consideration of how others feel and how the individual himself would feel if placed in the other's role would also play a part in a curriculum designed to facilitate the development of appropriate attitudes towards others.

The presentation of two recent curricular approaches to attitude development is not meant to imply that traditional early childhood education programs have ignored attitude growth. However, in the past, instructional techniques have tended to be "weak" techniques: - that is, the learning of appropriate attitudes was expected to occur incidentally; there was no direct training procedure. Such an approach is exemplified in the social studies unit, of a kind advocated by Preston (1960). This method introduces to the kindergarten child concepts based on his immediate environment - his home, his family, his neighborhood, and those who occupy this environment. The approach is based more on teacher-led discussion and explanation than the spontaneous activity of the child. It is assumed that through this approach, the child will recognize differences among individuals and will form healthy attitudes toward those who are different in appearance or custom.

In summary, this chapter has described the need for the appropriate measurement and facilitation of attitude growth in young children. A rationale for the measurement of attitudes based on the semantic differential was introduced. Three alternative approaches to the improvement of attitude development involving a Piagetian conception of perspective, a perceptual role-taking position and a traditional social studies unit approach were discussed. This study's purpose is to attempt to assess accurately attitudes and to determine whether any of the approaches discussed are useful in facilitating their growth.

CHAPTER TWO

Development of Attitude Instrument

The first task in the study was to develop an instrument which would not only be a valid measure of attitudinal preference, but which would also provide a score which could be used as a dependent variable of attitude change. As discussed earlier, previously developed instruments were either too subjective or not amenable to use as measures of individual differences. It was also difficult to coordinate them with more traditional measures of the attitudes of adult populations.

It was decided to combine the picture-preference technique of Horowitz (1936) and Trager and Yarrow (1952) with the semantic differential approach of Osgood, Suci and Tannenbaum (1957). The combined technique was similar to one employed by Renninger and Williams (1966). Eight photographs of a black man, a black woman, a black boy, a black girl, a white man, a white woman, a white girl and a white boy served as stimulus items. These pictures were selected from magazines, were in black and white, and were one inch square in size. They were also selected on the basis of middle-class appearances: the men wore jackets and ties, the women dresses, etc. The pictures thus allowed contrasts on the dimensions of race and sex.

Four bipolar adjective pairs common to the vocabulary of five-year old children were selected from those adjectives which were highly loaded on the evaluative factor of the semantic differential. The positive adjectives chosen were clean, good, smart and kind. The negative opposites were dirty, bad, stupid and mean. Since Osgood et al. had found that the evaluative factor was a valid index of attitude, it appeared that adjectives taken from the factor would provide an accurate description of the preferential attitudes of young children.

The test was conducted by means of a matched comparison method in which a pair of pictures such as a black boy and a white boy were randomly presented and the experimenter (E) told the subjects (Ss) a story about them. The stories always ended with S required to make a choice as to which model in the picture the story was about. There was a story for each of the eight adjectives with versions of the story appropriate for each age level. One story was "Two boys played in the mud. One of them got dirty. Which one do you think got dirty?" S was then asked to indicate the picture of the boy he thought got dirty. The complete test and directions for its administration are presented in Appendix A.

The test yielded a score for each S based on how many favorable and unfavorable adjectives he associated with Negroes or whites, and how many he associated with males or females. To get a high pro-white score for example, one would have to associate the white models

with positive adjectives i.e. "stayed clean"; and the Negro models with negative adjectives, i.e. "got dirty". A score of racial attitude could range from 0-32, since there were eight adjectives and four of the comparisons were racial ones for each adjective. Similarly, a sex attitude score could also be computed, ranging from 0-32.

Reliability and Validity of Attitude Instrument

In order to ascertain the reliability of the instrument, 68 kindergarten children with a mean age of 5-1 were tested. There were 38 girls and 30 boys in this sample and the children were selected from four public school classes. Testing was conducted in two sessions. In one session the Ss were administered the stories requiring responses for dirty, good, smart, mean. In the other they were given stories for clean, bad, stupid and kind. The testing sessions were administered one week apart, thus allowing a split-halves measure of reliability.

A Spearman rank-order correlation of .72 between Ss scores on the two halves of the test was obtained. Of perhaps greater importance to the reliability of the instrument was a percentage of exact agreement of 78% between adjective items. Exact agreement would occur, for example, if on the first session S responded that the Negro boy was dirty and on the second session he indicated that the white boy would be clean. These statistics seemed to suggest that the test was reliable enough for use with kindergarten children. In order to determine whether performance on the test was a function of intelligence rather than an evaluative attitude, a Spearman rank correlation between IQ and attitude score was computed. Twenty-eight children in the reliability sample had been given the Peabody Picture Vocabulary Test and this score was correlated with racial preference and sex preference. Correlations of .07 for race and -.19 for sex were obtained. These correlations seem to indicate that intelligence was not a contributing factor to performance on the test.

The question of the validity of a test is an important one. The typical procedure for determining validity involves correlating the test with another instrument which has been shown to be a relatively accurate measure of the variable. A high correlation between the two is taken to represent validity of the test in question. This approach seemed inappropriate for this particular instrument, however. One reason was that there were no standardized measures of attitudes available for use with kindergarten children. Another compelling reason was the conviction that the most valid measure of attitude is behavior indicative of the attitude itself. The logic behind using the verbalized opinions or preferences of respondents to measure attitudes is that there is a positive correlation between what people say on a subject and what they will do about it. If respondents' test scores are not related to the observed behavior

in question, then the validity of the instrument is suspect. For these reasons, it was decided that the best validity measure of an attitudinal test would be an observation of a behavioral act associated with the attitude in question.

The validity task developed for the study required S to choose an adult to play a game with them. Twenty-nine children were called one at a time to a small, bare testing room where two female adult students, one black and one white, were seated. E told the child that he or she was to choose one of the adults who would then play "Simon Says" with him. When the child had made the choice, E took him to another small room where he was allowed to play with toys and puzzles until all the children had made their choices. Those who chose the adult white person were taken to one room; those who chose the adult black were taken to another room. When all the children had made their selection, the black student went to the room which had the children who had chosen her, and the white student went to the group that had selected her. The students then played "Simon Says" with the children. This same procedure was repeated with two male adult students, one black and one white, serving as those with whom the child could play the game. While the selection procedure was being conducted, the investigators recorded the child's selection of an adult model from an adjoining observation room. The models chosen were unknown to the students, were of similar plain dress and were of the same age and size. Racial difference was the predominant distinguishing factor.

A point biserial correlation between attitude test score and the behavioral choice was computed. The resulting r of .35 indicated a significant but small relationship between behavior and test. Although the correlation is not high, it must be realized that test opinions and behavioral acts are multiply determined, and any single statement of opinion and any single action is extremely unreliable from a measurement standpoint. It is only over a long run of test opinions and actions that one should expect a high correlation. It must be concluded on the basis of this result, however, that the validity of the attitude instrument has yet to be demonstrated. Additional behavioral episodes must be required before it can be fully determined.

CHAPTER THREE

Method

Subjects

The sample comprised 42 students from an experimental kindergarten lab school and 21 kindergarten students from a public elementary school. The subjects from the lab school were younger than the kindergarten children (shown by the respective mean ages of 4.93 and 5.6 years) when their ages were compared by analysis of variance. This difference in age came about because children in the lab school were too young for entrance into a regular kindergarten. However, there was no significant difference between the average I.Q. of the lab school Ss, - 103.59, and the average I.Q. of the public kindergarten Ss, -103.95.

The 42 lab school children were randomly assigned to two treatment groups: a Piaget-task group and a role-playing group. There were three Negro children in both the role-playing and the Piaget group. The public school kindergarten students comprised the control group. The characteristics of the three groups are described more fully in Table 1.

TABLE 1

Summary of Mean Ages and
IQs of the Three Experimental Groups

Group	N	Mean Age Years	Mean Age Months*	SD (Months)	Mean I.Q.**	SD I.Q.
Role-Playing	21	5.00	59.95	1.36	103.76	16.56
Piaget	21	4.86	53.38	2.91	103.43	9.90
Control	21	5.62	67.38	4.20	103.95	9.72

*Significantly different at the .01 level

**No significant difference

Training Procedures

The training phase of the study consisted of teaching procedures designed to facilitate attitude development. These procedures were divided into two types: (1) training on a series of Piagetian tasks; and (2) role-playing situations. The Piagetian tasks were related to those used during the testing procedures; others were adapted from tasks used by other researchers (Beilin, Kagan, and Rabinowitz, 1966; Sigel, Roeper and Hooper, 1966). The role-playing situations

consisted of activities in which children were required to put themselves in the place of others or in new situations.

Training on the Piagetian tasks and the role-playing activities was conducted over a six weeks period. The two experimental groups met twice a week for 45 minute sessions in smaller sections of 7 Ss each. Each of the groups met alternately with a male or female E from session to session, so that sex of E was controlled. The two treatment groups were trained in the experimental classroom facility. The control Ss were in essence a no-training control, although the teachers of this class did involve the children in traditional social studies exercises during the six weeks. These exercises were of a class discussion type dealing with the social environment of the children. The objectives and sequence of the control group sessions was not defined.

Very briefly, the Piaget training involved group learning procedures in which the children were asked to perform different Piagetan operations. The tasks ranged from conservation of number, reversibility, multiple relations, superordinate classification, and two and three-dimensional perspective training. The tasks were introduced in order, from simple to complex--defined in terms of typical ages at which children generally demonstrate possession of the concepts involved. Several of the tasks were difficult for the children but E would always resolve each of the tasks at the close of the session. Children who were able to perform the task would demonstrate it or attempt to explain it to other children. A complete description of the Piaget training tasks is presented in Appendix B.

The role-playing tasks were conducted in a similar fashion to the Piaget sessions. The tasks ranged from those stressing awareness of perceptual differences among people to those where the children attempted to put themselves in the place of others. Several of the tasks were adopted from those used by Flavell et al. (1968). A complete description of the role-playing activities is presented in Appendix C.

Testing Procedures

All Ss in the three groups were administered the attitude test before and after the training sessions as a pre and post measure. In addition, Ss were individually administered the Peabody Picture Vocabulary Test (PPVT) and six tasks assessing Piagetian concepts.

The Piagetian tasks were chosen to measure cognitive learning achieved during the training sessions. They test for the presence of various concepts related to the objectives of the training tasks - i.e. the ability to assume other points of view. Tests were administered in two sessions as the children started to lose interest in

the tasks if the time involved exceeded half an hour. The first testing session for each child included the first half of the attitude test, the PPVT, and two of the Piaget tasks - conservation of number and two-dimensional space. These two tasks assess basic concepts necessary for logical thought. The two conservation tasks were adopted from the Concept Assessment kid of Goldschmid and Bentler (1968). A description of these two tasks and directions for their administration is presented in Appendix D. The final four Piagetian tasks and the second half of the attitude test were administered in the second test session. The four conservation tasks assessed the conservation of distance, composition of classes, straight line perspective and coordination of perspective. These tasks seemed appropriate since they indicated the degree of proficiency a child possesses in being able to shift from his isolated point of view to that required by the demands of the task.

The conservation of distance task was adopted from Smock and Shantz (1966). The child was shown miniature dogs and was asked to indicate whether they are "far apart" or "near together". A block was then placed between the dogs and S was again asked whether the dogs were far apart or near together. The same procedure was repeated with miniature cows. The composition of classes task was adopted from Lovell, Mitchell and Everett (1962) in which the child was required to form groups of beads and buttons which vary according to color and composition. This task tested for the concept of class inclusion. Straight line perspective was adopted from Dodwell (1961). It involved the connecting of miniature telephone poles with matches laid on a table in a straight line. Skill in this task is seen as a prerequisite for the efficient coordination of perspective. Coordination of perspective was assessed through the use of a three-dimensional cardboard and wood replica of three mountains described by Piaget and Inhelder (1956). The child was asked to tell what a doll would see when it was placed at various positions around the mountains. Appendix E provides a more complete description of the four tasks and directions for their a nistration.

CHAPTER FOUR

RESULTS

Analysis of Attitude Change

The change in attitude scores on the attitude story test served as the major dependent variable in the study. A positive change in attitudinal preference occurred to the extent that an individual's score approached the mid-point score of 16 on the racial and sexual scales. Scores on the test scales could range from 0 (all pro-Negro responses or all pro-female responses) to 32 (all pro-white responses or all pro-male responses). For example, a S who indicated 29 pro-white responses on the pre-test and only indicated 19 pro-white responses on the post-test would receive a positive score of 10. A score of 10 pro-male preferences on the pre-test and 13 pro-male responses on the post-test would yield a score of 3. A change from 10 pro-male responses to 22,however, would indicate no attitude change as both scores are equally distant from the mid-point of 16. In other words, the existence of a biased attitude is defined by the deviation of the individual's score from 16, the point at which 50% of the individual's responses are pro-white and 50% are pro-Negro.

Table 2 presents the mean pre-and post-attitude scores on the racial dimension, as well as the mean changes and standard deviations for each group. It can be seen that both the Role-Playing and Piaget Task groups changed slightly in the positive direction, while the control group changed in the negative direction. The table also indicates that the pre-test scores for all groups were highly biased in the pro-white direction on the pre-test and that the post-test scores remained biased, although some positive change was indicated in the experimental groups.

TABLE 2
Mean Pre- and Post-Attitude Scores
for Racial Preference for all Three Groups

Group	N	Pre-Test	Post-Test	Change	SD
Role-Playing	21	24.05	23.28	1.24	4.16
Piaget	21	23.38	22.33	.95	4.28
Control	21	23.00	25.24	-2.23	3.64

A 1 x 3 analysis of variance of the difference scores was conducted on the data. An F value of 4.66 ($p < .05$) was obtained. The Tukey test (Winer, 1964) revealed that significant differences between the

Role-Playing and Control treatment ($p < .05$) and the Piaget and Control treatment ($p < .05$) contributed to the difference. The difference between the Role-Playing and Piaget Task means was not significant. Apparently, the decrease in pro-Negro responses by the control group and the slight gains recorded by the two experimental groups accounted for the significant finding. Table 3 presents a summary of the analysis of variance.

TABLE 3
Summary of Analysis of Variance for
Racial Attitude Change for All Three Groups

Source	df	Sum of Squares	Mean Squares	F
Between	2	152.00	76.00	4.66*
Within	60	977.99	16.30	
Total	62	1129.99		

*Significant at .05 level

Although change in racial attitude was of major interest to the study, data obtained from the sex scale of the attitude story test was also analyzed. Table 4 presents the mean pre- and post-attitude scores on the sex dimension, as well as the mean change and standard deviations for each group. The table indicates that all three groups were slightly biased in the pro-female direction and that the post-test scores remained slightly biased, although there was a slight negative change among the experimental groups.

TABLE 4
Mean Pre- and Post-Attitude Scores for
Sexual Preference for all 3 Groups

Group	N	Pre-test	Post-test	Change	SD
Role-Playing	21	13.24	13.05	-.62	2.43
Piaget	21	14.29	13.45	-.81	4.08
Control	21	12.70	12.66	.05	3.47

An analysis of variance of the pre-post difference scores was also conducted on this data. An F value of 1.26 was obtained which was not significant. Table 5 presents a summary of this analysis of variance.

TABLE 5
Summary of Analysis of Variance for
Sexual Attitude Change for all Three Groups

Source	df	Sum of Squares	Mean Squares	F
Between	2	29.17	14.59	1.26
Within	60	693.14	11.55	
Total	62			

Further analysis of attitude changes was conducted by comparing the number of individual Ss that either changed positively, negatively or not at all for all three groups. Table 6 presents the changes on the race dimension, and Table 7 presents the sex dimension changes.

TABLE 6
Number of Ss that Changed Positively,
Negatively or Not at All on Race Attitude

Group	N	+Change	-Change	No Change
Role-Playing	21	10	8	3
Piaget	21	11	6	4
Control	21	5	14	2

TABLE 7
Number of Ss that Changed Positively,
Negatively, or Not at All on Sex Attitude

Group	N	+Change	-Change	No Change
Role-Playing	21	5	13	3
Piaget	21	10	10	1
Control	21	9	11	1

The results of these comparisons support the findings of the analysis of variance. On racial attitude, more Ss changed in the positive direction than they did the negative direction for both Role-Playing and Piaget treatment conditions. More control Ss changed in the negative direction than the positive direction. On sex attitude, there was little preponderant change in either direction for the Piaget and Control Ss, although there were more Ss who demonstrated a negative change among the Role-Playing group.

The performance of Ss on the selected Piagetian tasks was analyzed in order to determine the effect of the various treatments on developing cognitive operations. The nature of the tasks and the manner in which they were scored did not allow for parametric analyses. Scoring was predominantly on the basis of a right/wrong decision, and the requirement of interval data for parametric tests was not met. For this reason, the Sign Test (Siegel, 1956) was used to compare changes in performance within the three groups on the Piagetian measures.

Changes in the number of Ss who attained the six operations assessed within the Role-Playing group are presented in Table 8. The final column of the table indicates that a significant number ($p < .05$) of Ss acquired the operations of two-dimensional space, conservation of number and conservation of distance, as determined by the Sign Test. Acquisition of composition of classes and straight line perspective approached significance, while no significant change occurred in the coordination of perspective task.

TABLE 8
Changes in Performance on Six
Conservation Tasks for Role-Playing Group (N=21)

Task	Pass(I)	Fail(I)	Pass(II)	Fail(II)	P
Two-Dimensional Space	7	14	14	7	.02
Conservation of Numbers	8	13	18	3	.006
Conservation of Distance	4	17	10	11	.02
Composition of Classes	3	18	8	13	.09
Straight Line Perspective	6	15	12	9	.07
Coordination of Perspective	1	20	4	17	.38

Changes in the number of Ss who attained the six operations assessed within the Piaget Training group are presented in Table 9. This table indicates that a significant number of Ss acquired the operations of two-dimensional space and conservation of number, as determined by the Sign Test. Acquisition of conservation of distance approached significance, while no significant change occurred on the other three tasks.

TABLE 9
Changes in Performance on Six
Conservation Tasks for Piaget Training Group (N=21)

Task	Pass(I)	Fail(I)	Pass(II)	Fail(II)	P
Two-Dimensional Space	4	17	11	10	.006
Conservation of Number	8	13	14	7	.02
Conservation of Distance	5	16	9	12	.09
Composition of Classes	1	20	4	17	.15
Straight Line Perspective	8	13	8	13	.50
Coordination of Perspective	0	21	1	20	.38

Changes in the number of Ss who attained the six operations within the Control group are presented in Table 10. The table indicates that a significant number of Ss acquired the operation of conservation of distance. No other changes in performance by the control Ss reached or approached significance.

TABLE 10
Changes in Performance on Six
Conservation Tasks for Control Group (N=21)

Task	Pass(I)	Fail(I)	Pass(II)	Fail(II)	P
Two-Dimensional Space	5	16	6	15	.50
Conservation of Number	2	19	4	17	.34
Conservation of Distance	1	20	6	15	.03
Composition of Classes	4	17	5	16	.36
Straight Line Perspective	6	15	4	17	.38
Coordination of Perspective	1	20	2	19	.41

In order to determine whether there was any relationship between performance of the conservation tasks and attitude change, point biserial correlations between the significant conservation tasks for each group and the attitude change score were computed. For Ss in the Role-Playing Group the correlations between attitude change and performance on the two-dimensional space task, the conservation of number task and the conservation of distance task were .22, .14, and .15, respectively. For Ss in the Piaget training group, the point biserial correlations between attitude change and performance on the two-dimensional space task and the conservation of number task were .33 and .26, respectively. For Ss in the control group, the correlation between attitude change and performance on the conservation of distance task was .09.

CHAPTER FIVE

Discussion and Conclusions

The results of this study indicate that kindergarten children possess marked racial preferences that can be measured and that these preferences can be affected through curriculum provisions. The finding that both role-playing and Piagetian training techniques significantly reduced racial attitude scores when compared to the effects of no specific training does suggest the potential feasibility of educational intervention. However, the extent to which change can be accomplished and the best way of facilitating change without adversely affecting other attitudes, as well as skills, is yet to be determined. Change on the racial dimension was minimal for both experimental groups, and an increase in the pro-white scores of the control Ss contributed to the significance of the main effect. Moreover, no significant changes were affected on the sex dimension.

Of particular interest was the similarity in efficacy of the two experimental treatments. The role-playing condition which attempted to train children in affective, empathic thinking, as well as sharpen perceptual awareness, was remarkably comparable to the more cognitively-oriented Piagetian training as reflected on the various dependent variables utilized. Not only were the positive changes on the racial attitude measure similar, but the two treatments also produced highly comparable effects on the same three conservation tasks. The number of Ss in both groups significantly increased in their ability to conserve two-dimensional space and number. Changes on the conservation of distance task were significant for the Role-Playing group, while performance changes approached significance ($p < .09$ for the Piaget training Ss. These three tasks are generally recognized as being attained during the age range of five through eight years, and apparently precede the development of spatial concepts of a more advanced nature (Dodwell, 1963; Shantz and Smock, 1966; and Piaget and Inhelder, 1956). The fact that both treatment conditions facilitated their acquisition attests to the similarity of the treatments.

How then to account for the apparent congruency of two treatments which were thought to represent two divergent approaches? One factor was the failure of the role-playing treatment to accomplish what the authors intended it to do; namely, to facilitate the taking on of another's point of view. It had been intended in the discussion parts of the role-playing sessions to help children infer the covert attributes of others, i.e.-the needs, intentions, feelings and beliefs that characterize all individuals. Tasks such as "Let's Pretend", "Doll Play" and "Gift-Choosing" were aimed directly at this skill. Qualitative, subjective analysis of the

role-playing sessions at their conclusion made it clear to the investigators that the children were not responding to these tasks as had been expected. They were still egocentric in thought and feeling as evidenced by one of the S's statements, "I'm a policeman, and I go to kindergarten".

The role-playing treatment was successful, however, to the extent that it sharpened the perceptual, cognitive skills of the Ss. The increase in awareness of two-dimensional space, conservation of distance, and conservation of number stand as testimony to this effect, as these tasks directly involve the ability to visually discriminate; to hold in one's mind an image of a previous occurrence. The success of the training procedure in this respect suggests another, perhaps more important factor in the similarity of the two treatments. This was the observation that attitude preference, as defined on the instrument used here, is not indicative of an affective response on the part of the kindergarten children tested, but is in fact a purely cognitive, perceptual act. The children believe that the characteristics they attribute to the models in the test are facts and realities. The matter-of-fact manner in which the children almost universally responded to the test, as for example the child who clearly stated that "This boy is dirty, because he is black," revealed no guilt, no anxiety about their verbalizations. These were not responses typically associated with ethnic prejudice or racial bigotry in the worst sense; these were instead discriminations the children had learned to make about their world, without an emotional association. These responses merely indicated expectations the children had developed on the basis of appearance, and there is nothing abnormal or prejudiced in the sheer expectation that black men will be significantly different from white men. In effect, the two treatments were similar, because the Ss were responding to them in a similar fashion; that is, in a factual, cognitively oriented manner.

It was an assumption of the study that the children employed as Ss were representative of all children; they were drawn from all social classes, from all levels of income, and there were six Negro children included in the experimental groups. Although differences in performance according to socio-economic status were not analyzed, the Negro children seemingly displayed no differences from white children in their responses to any of the tasks. They too attributed positive evaluations to the white models, while applying negative associates to the photographs of black people. They too had developed preferences or prejudgments that correspond to those of the broader culture. Have they, as well as the white children, developed attitudes about themselves which will lead to emotional prejudice in the future?

The results of the treatments on both the attitude test and the conservation tasks suggest that this need not be the case. As Allport has stated,"Prejudgments become prejudices only if they are not reversible when exposed to new knowledge"(1954). If a person

is capable of rectifying his erroneous judgments in the light of new facts, he is not prejudiced. Training in logical thinking, in gathering data, and in relying on fact rather than emotion, seems imperative in facilitating appropriate attitudes. If a child can sharpen his ability to rely on cognitive data, to make judgments about others on the basis of behaviors rather than appearance, when he is in the key early years of life, then the possibility of the development of prejudice is lessened. These treatments were apparently effective in facilitating the basic cognitive operations which affect the growth of logical thought and non-intuitive judgment.

Some mention should be given of the three tasks which were not facilitated by the experimental conditions. These three: composition of classes, straight line perspective and coordination of perspective, are all tasks that are typically mastered toward the end of the stage of concrete operations, by age 8 or 9 for most children (Piaget and Inhelder, 1956; Dodwell, 1963). The formation of prerequisite spatial and numerical operations, such as those represented in the first three conservation tasks, normally precedes the attainment of these latter concepts. These results partially support Piaget's notion of the invariant sequences of learning, although it must be remembered that a few Ss did demonstrate coordination of perspective, and several others were in a transitional state in the operations they possessed, despite being only five years of age.

Recommendations and Further Research

It is recommended that a combined role-playing/Piagetian training procedure be developed as an aid to the attitude growth of kindergarten children. Such an approach would primarily emphasize tasks which facilitate perceptual awareness such as the picture reversal, block manipulation and horizontal axes tasks described in Appendices B and C. It would also involve training in cognitive operations such as conservation, numeration and two-dimensional spatial conceptualization. The results of this study seem to indicate that kindergarten children could benefit from such a program.

It is also suggested that role-playing activities such as doll-play, "Let's Pretend", etc. be withheld from formal programs until later in the academic sequence, after children have developed the discriminative skills necessary to benefit from these activities. Although there is no suggestion that harm may result from too early an introduction of these activities, it is felt that the best effect can be obtained when children have the prerequisite perceptual skills and cognitive operations.

Obviously, such a program needs a great deal of further research. A prime research need at present is a longitudinal-developmental study in which children of different age levels are trained and followed through several years of growth. Changes in attitude are probably gradual in appearance and longitudinal research is

necessary to determine the full effects of curriculum innovations. Moreover, more information on the development of the ability to assume other points of view, and the onset of empathic responses can only be obtained by observing the behavior of children in the early elementary grades. Finally, the attitude preference test needs further research in the direction of obtaining behavioral episodes which could be used to provide a sound validity base against which the instrument could be compared.

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APPENDIX A

Directions for Attitude Story Test

Experimenter says:

"I have here some pictures of people I'd like to show you, and I'm going to tell you some stories that go with them. I want you to finish the stories by pointing to the picture that the story is about. Okay _____?"

"Now, let's look at the pictures."

After telling each story, E records S's response. Then experimenter says:

"Now, let's look at the pictures again with some different stories."

Attitude Stories

Dirty

Two _____ played in the mud. One of them got dirty. Which one got dirty?

Two _____ went to work. One of them got dirty at work. Which one got dirty?

Good

Two _____ are in the same class at school. One of them is good in school. Which one is good?

Two _____ work at the same job. One of them is good at his job. Which one is good?

Smart

Two _____ work at the same job. One of them is very smart in school. Which one is smart?

Two _____ are in the same class at school. One of them is smart in school. Which one is smart?

Mean

Two _____ had children in their family. One of them was mean to the children in the family. Which one was mean?

Clean

Two _____ played in the mud. One of them stayed clean. Which one stayed clean?

Two _____ went to work. One of them got dirty at work. Which one stayed clean.

Bad

Two _____ work at the same job. One of them is bad at his job. Which one is bad?

Two _____ are in the same class at school. One of them is bad in school. Which one is bad?

Stupid

Two _____ work at the same job. One of them is very stupid in his job. Which one is stupid?

Two _____ are in the same class at school. One of them is stupid in school. Which one is stupid?

Kind

Two _____ owned a dog. One was kind to the dog. Which one was kind?

Two _____ had children in their family. One of them was kind to the children in the family. Which one was kind?

APPENDIX B

Description of Procedures and Materials Used for Piaget Training Tasks

First Week

Task A - Conservation of Matter

Materials
Two balls of play-doh

Procedure

Experimenter shows children two balls of play-doh and says "There is the same amount of play-doh in each ball. They are both alike. Do they look alike to you?" Children comment about whether two balls are the same. After the final agreement that they are the same, E takes one and extends it into a hot dog shape. "Now is there as much play-doh in this one, or that one; or does one have more? Why?"

Task B - Classification

Materials
Two pictures of robins, two pictures of ducks on 8½ x 11" paper

Procedure

E presents two pictures of robins and asks if they are the same. The group discusses it; and the fact that they are both birds is brought out for everyone. E does the same with ducks. E then presents a bird and a duck and asks if they are both the same. The children are led in discussion until they verbalize that the robin and duck are both the same--they both have feathers, for example. E then mentions dogs and includes them in discussion. "Are they the same as ducks?" - No "Are they the same as robins' - No 'Which are the ducks the most like--the robins or a dog?' The children are led to see that ducks are more like robins.

Task C - Reversibility

Materials - None

Procedure

E asks how many children have brothers or sisters and how many have mothers and fathers. After the children see that almost everyone has brothers or sisters or mothers and fathers, E asks if each child's brother (or sister) has a brother (or sister). Children are led to see that one can have a brother and be a brother to someone else. The same discussion ensues for mother (father) and son (daughter) until the children see that their mothers also have mothers and that their mothers are also daughters.

Second Week

Review of previous conservation tasks

Task D - Horizontal Axes

Materials
2 different shaped bottles (filled 1/4 and 3/4 with colored liquid)
Answer sheet

Procedure

E indicated the water level on the first bottle. He then asked: "What would happen to the water level if we turned the bottle upside down?" Ss were asked to draw the water level on the blank bottle on the answer sheet. After each child finished, the bottle was carefully tipped and Ss compared their drawings to the actual water level.

This same procedure was repeated for the second bottle. Again Ss were asked if they knew what would happen to the water level if the bottle were tipped, and drew the expected water level on the answer wheet. They again compared their drawings with the actual tipped bottle.

E then asked those who were relatively accurate in their drawings to explain how they knew what the tipped bottle would look like. A discussion on how water looks when it is tipped was started. If the children had acquired the horizontal axes concept, then water level should be related to an external level, such as the table or the floor. Children were quizzed to ascertain whether or not they had this concept.

Third Week

Task E - Geometrical Sections

Materials
Plasticene or cardboard cylinder
Hollow rubber ball
Knife
Drawing paper

Procedure

E showed children the cylinder and knife, and said: "I am going to cut this roller in the middle like this (perpendicular to the main axis, indicated by gesture). I would like you to draw the side you will see where it has been cut." Then E showed a cut section and asked: "Did you think it would look like this?" This same procedure is repeated with the rubber ball. The children's drawings were checked for accuracy.

Task F - Perspective Training

Materials
2 matchsticks
Wooden block
Doll
Drawing Paper

Procedure

E placed the objects, one at a time, in the middle of the table. The doll was placed at a 90° angle to the object and the children were asked to draw the object as it would look to the doll. The children were seated in such a way that they could not see the objects as the doll does.

First, the two matchsticks were placed end to end. The doll should "see" the matchsticks end-on (i.e. ⎮). The children should see the matchsticks ⎯ ⎯ , or close to this position.

The second object used was the wooden block which was placed lengthwise to the doll, but ⎍ to the children Ss were again asked to draw the block as it would appear to the doll.

After the drawings were completed, E checked each child's drawing and allowed those who were inaccurate to sit behind the doll and draw objects from that position. E suggested that where you sit makes a difference as to how you see things.

Fourth Week

Review of Horizontal Axes task

Review of Task E - Geometric Sections

Materials
Cardboard cylinder
Hollow ball
Knife
Drawing paper

These materials, used in the preceding training session, have been put back together. E again has the children draw what they think the objects will look like when they have been cut. All three objects are done at once. E then took the objects apart and compared them with the children's drawings. E corrected errors and explained that things look different when they are cut in half.

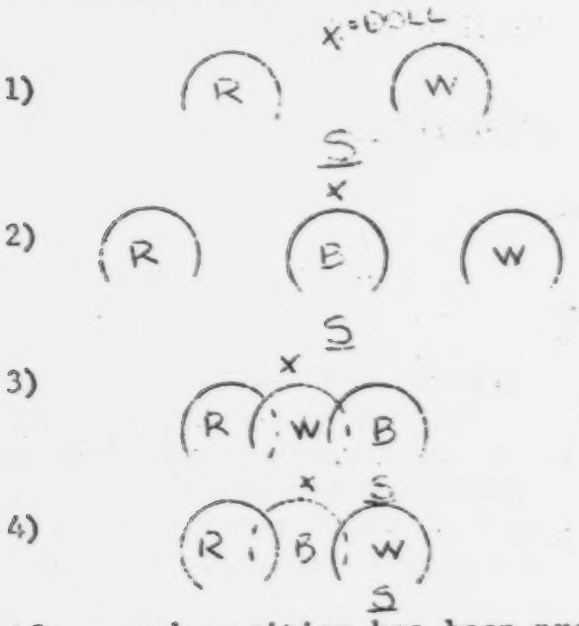
Task G -Three-Dimensions - Plasticine Ball Manipulation

Materials
6 plasticine balls of different shapes and colors
Small doll
Flat piece of cardboard

Procedure

The doll is placed on the table and the children are seated opposite it. Each S is given three balls of plasticine of different colors and the piece of

cardboard. Each S was presented the model arrangements one at a time and asked to make the model exactly as the doll would see it. E presented 4 model arrangements made of the other balls of plasticine in the following sequence.



After each position has been presented, E compared S's results with the model and allowed S to compare it also. E pointed out the correct and incorrect responses and explained why they were right or wrong.

Fifth Week

Review of Task F - Perspective Training

Review of Task G - Plasticine Ball Manipulation - Three Dimensions

Sixth Week

Review of Piaget Tasks

Review of Task G - Three dimensions (using blocks instead of clay)

Materials
3 blocks of different shapes
Drawing paper

Procedure

Ss were tested in a group. E arranged the blocks in a variety of positions and asked Ss to draw the blocks according to the way E would see them. The drawings were compared with the arrangements and corrections were made.

APPENDIX C

Description of Procedures and Materials Used for Role-Playing Tasks

First Week

Task A - Picture-Reversal Task

Materials
Picture of young boy

Procedure

On the picture-reversal task, the different children seated at a table indicated how they saw the picture and predicted how a child across from them saw it. Each child predicted how the child sitting across from him saw it. There was a general discussion of how different people see different things.

Task B - Gift-Choosing Task

Materials
men's necktie, nylon stocking, adult book, toy truck, baby doll

Procedure

Each child met with E individually, while others played a game. Subjects were asked which of the objects they would give as a gift to their mother, father, teacher, brother, sister and to themselves. After each child stated his individual opinion, there was a general discussion of how different people have different things as gifts.

Second Week

Review of Picture-Reversal Task and Gift-Choosing Task

Task C - Block-Picture Task

Materials
Two-dimensional wooden blocks
2 Sets of identical pictures affixed to various sides ob the blocks - 4 per block

Procedure

E showed the children individually one of the blocks and asked them to name the four pictures, and gave help where it was needed. The second block was then presented and it was shown that it was identical to the first. E then said, "Now I am going to turn my block around. You turn your block around so that you can see on your block the same picture that I am looking at on my block. Be sure to look at the same picture on your block that I am looking at on my block." After the children had turned their block, E asked, "What picture are you looking at? What picture do you think I am looking at?"

Third Week

Review of Task C - Block Picture Task
The same procedure described for the preceding week was used.

Task D - Omitted Picture Sequence Task

Materials
Seven pictures which tell a story pasted on 3" x 3" cardboard backing

Procedure

This task is administered individually to Ss. E displayed a series of 7 pictures and asks S to tell a story about them. Three specific pictures (#3,4, 6) were removed, and S was requested to predict the story that E_2 would probably tell if E_2 saw the remaining 4 pictures only. The pictures were suggested so that the intact series suggested a certain story, while the series of four suggested another, quite different, story.

Fourth Week

Task D - Review of Omitted Pictures Task
The same procedure is used, except the task is performed by the entire group.

Task E - Let's Pretend

Procedure

E introduced as a game "Let's Pretend", in which children were asked to pretend that they are different things. E said, "What would it be like if:

1) you were dirty; 2) your family were very poor; 3) you were the president, 4) you were me?"

E encouraged each child to express an opinion on each question. The goal was to get the children to think about how it would be to be different from the way they were at the time, and to be able to take into account other people's roles.

Fifth Week

Task F - Doll Role-Playing

Materials

Seven dolls (both black and white and representing various roles)

Procedure

E gave each child a doll. E encouraged the children to talk to one another pretending that they were the characters the dolls represented: policeman, nurse, doctor, housewife, child, worker, etc. E occasionally asked individual children, "Why did you say that?" or something like "Do you like me?" or "I don't like you, you're dark (or dirty or bad)." The goal was to get the children to think and react like the doll they are holding, and to appreciate differences of others.

Task E - Let's Pretend

Procedure

E asked children to pretend that they were different people. E said, "What would you be like if you were bad? If you were stupid? If you were mean? Would other people like you? Why not? What would it be like if you looked funny? Would people like you? Which is worse, to look funny or mean?" The goal was to get the children to see that people are disliked for many reasons, but that some reasons (appearance) are silly.

Sixth Week

Review of Task F - Doll Role-Playing

The same procedures used for the fifth week were used.

Task G - Discussion of Emotions

Procedure

E conducted a general discussion on feelings. E asked "Do we all get angry, happy, sad? Do we all make mistakes at some time? Do we all have reasons to be angry or happy or sad? What are some of the reasons? Do different people have different reasons?"

E also discussed why we have friends. E asked "What makes a friend? Is it important what a friend looks like, just as long as he is nice?" The goal was to get children to realize that certain behaviors occur for everyone and that behaviors are more important than appearances.

APPENDIX D

Sample of Task I - Two-Dimensional Space and Task II - Conservation of Number

APPENDIX E

Directions for Administration of Four Perspective Tasks

Task III

Conservation of distance

Present 2 items (dogs) 8 inches apart. Ask S whether objects are "far apart" or "near together".
Then place block between them. "And now, are they far apart or near together?"
Ask them to explain the answer.
Repeat with other objects (cows).

Task IV

Composition of classes

Display beads -- 6 blue, 2 yellow
E says "Are there more blue than yellow?" E records response and corrects to be sure S sees there are more blue.
E tells S they are made of wood. "Are there more wooden beads or are there more blue ones?"

Repeat the same procedure with plastic buttons --
7 white, 3 black.
"Are there more black than white?"
"Are there more plastic than black?"
"Are there more small than plastic?"

Task V

Straight line perspective

E presents two matches placed upright in two beads.
"Let's pretend these are two telephone poles. Can you make a straight line between the 2 poles with the other matches by putting them flat on the table?"
E then draws line that S arranges. E then presents three matches placed in three beads arranged in a triangle shape.
"Now there are three poles. Can you make a straight line between the three?"
E again draws the configuration produced by S.

Task VI

Coordination of Perspective

E presents 3 mountain model and says, "These pointed things are mountains, and from different sides you can see different things. One mountain is gray, is large and has snow on the top. This mountain is brown, has a blue stream running down it and has a red cross on the top. This is a green mountain which has a little house on the top and a white path leading up to the house.
I will put this little doll (indicates little 2" figure) at different places, and I want you to tell me what the doll would see from those places".

E places the doll at 4 different positions: the first, the child's own position, and then the other 3 sides of the model. The child is not allowed to move around the model at any time. E records child's responses.